CLEAN VERSION OF THE ENTIRE SET OF CLAIMS

1   1.   A method for scheduling traffic in a network, the method comprising:

2   dividing a hardware schedule table into N logical schedule tables, the N logical

3 schedule tables being separated by table delimiters; and

4   assigning an identifier in a scheduling table, the scheduling table being one of the N

5 logical schedule tables, the identifier corresponding to a connection in the network.

1   2.   The method of claim 1 wherein each of the table delimiters corresponds to

2 at least one unused entry in the hardware schedule table.

1   3.   The method of claim 2 wherein each of the N logical schedule tables

2 corresponds to a class of service.

1   4.   The method of claim 1 wherein assigning comprises:

2   determining if a first entry requested by the network for the identifier is occupied;

3 and

4   assigning the identifier to a second entry if the first entry is occupied, the second

5 entry being available for occupancy.

1   5.   The method of claim 4 further comprising:

2   assigning the identifier to the first entry if the first entry is available for occupancy.

1   6.   The method of claim 5 further comprising:

2   assigning the identifier to a third entry if the second entry coincides with one of the

3 table delimiters, the third entry being a next available entry found from a beginning of the

4 scheduling table.

1   7.   The method of claim 6 wherein the network is an asynchronous mode

2 transfer (ATM) network.

1   8.   The method of claim 7 wherein the identifier is a virtual channel identifier.

1   9.   A computer program product comprising:

2   a computer usable medium having computer program code embodied therein to

3   schedule traffic in a network, the computer program product having:

4   computer readable program code for dividing a hardware schedule table into N

5   logical schedule tables, the N logical schedule tables being separated by table delimiters;

6   and

7   computer readable program code for assigning an identifier in a scheduling table,

8   the scheduling table being one of the N logical schedule tables, the identifier corresponding

9   to a connection in the network.

1   10.   The computer program product of claim 9 wherein each of the table

2   delimiters corresponds to at least one unused entry in the hardware schedule.

1   11.   The computer program product of claim 10 wherein each of the N logical

2   schedule tables corresponds to a class of service.

1   12.   The computer program product of claim 9 wherein the computer readable

2   program code for assigning comprises:

3   computer readable program code for determining if a first entry requested by the

4   network for the identifier is occupied; and

5   computer readable program code for assigning the identifier to a second entry if the

6   first entry is occupied, the second entry being available for occupancy.

1   13.   The computer program product of claim 12 further comprising:

2   computer readable program code for assigning the identifier to the first entry if the

3   first entry is available for occupancy.

1   14.   The computer program product of claim 12 wherein the computer readable

2   program code for assigning further comprising:

3   computer readable program code for assigning the identifier to a third entry if the

4   second entry coincides with one of the table delimiters, the third entry being a next

5   available entry found from a beginning of the scheduling table.

1   15.   The method of claim 14 wherein the network is an asynchronous mode

2 transfer (ATM) network.

1   16.   The method of claim 15 wherein the identifier is a virtual channel identifier.

1   17.   A system comprising:

2   a network interface bus;

3   a physical interface device coupled to the network interface bus to request a

4 connection by an identifier; and

5   a network processor coupled to the network interface bus having at least a hardware

6 schedule table to schedule traffic in the network, the at least hardware schedule table being

7 divided into N logical schedule tables separated by table delimiters, the identifier being

8 assigned in one of the N logical schedule tables.

1   18.   The system of claim 17 wherein each of the table delimiters corresponds to

2 at least one unused entry in the hardware schedule table.

1   19.   The system of claim 18 wherein each of the N logical schedule tables

2 corresponds to a class of service.

1   20.   The system of claim 17 wherein the identifier is assigned to a second entry

2 if a first entry requested by the network for the identifier is occupied, the second entry

3 being available for occupancy.

1   21.   The system of claim 20 wherein the identifier is assigned to the first entry if

2 the first entry is available for occupancy.

1   22.   The system of claim 20 wherein the identifier is assigned to a third entry if

2 the second entry coincides with one of the table delimiters, the third entry being a next

3 available entry found from a beginning of the scheduling table.

1   23.   The system of claim 22 wherein the network is an asynchronous mode
2   transfer (ATM) network.

1   24.   The system of claim 23 wherein the identifier is a virtual channel identifier.

1   25.   A system comprising:
2   a processor;
3   a network processor coupled to the processor, the network processor having a
4   scheduler for scheduling traffic in a network using a hardware schedule table; and
5   a memory coupled to the processor to store a program, the program, when executed
6   by the processor, causing the processor to:
7   divide the hardware schedule table into N logical schedule tables separated
8   by table delimiters, and
9   assign an identifier in a scheduling table, the scheduling table being one of
10   the N logical schedule tables, the identifier corresponding to a connection in the
11   network.

1   26.   The system of claim 25 wherein each of the table delimiters corresponds to
2   at least one unused entry in the hardware schedule table.

1   27.   The system of claim 26 wherein the scheduler assigns the identifier to a
2   second entry if a first entry requested by the network for the identifier is occupied, the
3   second entry being available for occupancy.

1   28.   The system of claim 27 wherein the program, when causing the processor to
2   assign the identifier in the scheduling table, causing the processor to:
3   assign the identifier to a third entry if the second entry coincides with one of the
4   table delimiters, the third entry being a next available entry found from a beginning of the
5   scheduling table.

1   29.   The system of claim 28 wherein the network is an asynchronous transfer
2   mode (ATM) network.

1   30.   The system of claim 29 wherein the identifier is a virtual channel identifier.

1   31.   The system of claim 30 wherein the network processor is a segmentation
2   and reassembly processor.